May 10, 2024

Christopher J. Kirkpatrick
Secretary
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, N.W.
Washington, D.C. 20581

Re: Cboe Digital Exchange, LLC Rule Certification
Submission Number CDE-2024-08E

Dear Mr. Kirkpatrick:

Pursuant to Section 5c(c)(1) of the Commodity Exchange Act, as amended ("Act"), and Regulation 40.6(a) of the regulations promulgated by the Commodity Futures Trading Commission ("CFTC" or "Commission") under the Act, Cboe Digital Exchange, LLC ("CDE" or "Exchange") hereby submits this rule change to update CDE certain CDE products and rules in connection with an update to an underlying index ("Amendment"). The Amendment will become effective on May 31, 2024.

Background

Currently, the Exchange is authorized to list financially-settled margined futures on bitcoin ("FBT"), financially-settled margined futures on Ether ("FET"), physically-settled margined futures on bitcoin ("BTC") and physically-settled margined futures on Ether ("ETH") (collectively, the "Products"). The Products are based on the price of bitcoin or Ether, as applicable, in U.S. dollars based on the applicable Cboe Kaiko Reference Rate.[1] These futures are designed to reflect economic exposure related to the price of bitcoin or Ether, as applicable. Pursuant the Products' contract specifications, the Products' final settlement prices are based on either the Cboe Kaiko Bitcoin Rate ("CKBR") Index, for the Products based on bitcoin, or the Cboe Kaiko Ether Rate ("CKER") Index, for the Products based on Ether (CKBR and CKER are collectively, the "Cboe Kaiko Reference Rates"). The Cboe Kaiko Reference Rates provide a USD-denominated reference rate for the spot price of bitcoin or Ether, as applicable. The Cboe Kaiko Reference Rates leverage real-time prices from the constituent exchanges to provide a reliable and accurate reflection of the underlying bitcoin and Ether spot markets.

The CKBR represents the price of bitcoin and the CKER represents the price of Ether by aggregating trade data from eligible trading venues during one-hour calculation windows. Kaiko implements an aggregation methodology that consists of a look-back that

[1] The Cboe Kaiko Reference Rates are customized rates, developed by Kaiko for Cboe Digital.

splits the one-hour reference rate calculation periods into ten six-minute segments (or, "partitions") and, for each partition, calculates the most representative trade price used for the final rate calculation.[2]

Currently, the eligible trading venues that comprise the Cboe Kaiko Reference Rates are: LMAX Digital, Bitstamp, itBit and the Cboe Digital Spot Market, which the Exchange operates as a digital asset spot market, separate from its DCM. On April 25, 2024, CDE's parent company, Cboe Global Markets ("CGM") publicly announced it was refocusing its digital asset business as part of a strategic review to leverage core strengths in derivatives and clearing. As part of this strategic initiative, all trading on the Cboe Digital Spot Market will cease on May 31, 2024, and, as a result, the Cboe Digital Spot Market will be removed as an eligible trading venue from the Cboe Kaiko Reference Rates. Additionally, the Exchange will update its daily settlement pricing process, which currently includes the Cboe Digital Spot Market prices as part of the Daily Closing Price determination, to remove the Cboe Digital Spot Market from the process.

Description of Amendment

The Amendment 1) updates the index underlying the Products, removing the Cboe Digital Spot Market as an eligible trading venue in the Cboe Kaiko Reference Rates, and 2) updates subparagraph(b) of CDE Rule 906 (Settlement Prices) to remove the Cboe Digital Spot Market from the Daily Closing Price determination, which is set forth in **Exhibit A** of this submission.

Regarding the change to the Cboe Kaiko Reference Rates, CDE reviewed the correlation between the daily returns of the Cboe Kaiko Reference Rates, as revised (i.e., with the Cboe Digital Spot Market removed). The Exchange reviewed the Cboe Kaiko Bitcoin Rate (with the Cboe Digital Spot Market removed) and the CME CF Bitcoin Reference Rate.[3] CDE identified a 0.996 correlation between the Cboe Kaiko Bitcoin Rate and the CME CF Bitcoin Reference Rate. A 0.996 correlation indicates the respective rates' prices will continue to be very strongly aligned upon the removal of the Cboe Digital Spot Market from the CKBR, and differs by only 0.002 points from the result of the same price comparison previously conducted between the CKBR (with the Cboe Digital Spot Market included) and the CME CF Bitcoin Reference Rate. Likewise, CDE reviewed the correlation between the daily returns of the Cboe Kaiko Ether Rate (with the Cboe Digital Spot Market removed) and the CME CF Ether Reference Rate. CDE identified a 0.997 correlation between the Cboe Kaiko Ether Rate and the CME CF Ether Reference Rate. A 0.997 correlation indicates the respective rates' prices will continue to be very strongly

[2] More information on the Cboe Kaiko References Rates methodology and the procedures and rules governing the Cboe Kaiko Reference Rates is available in the Cboe Kaiko Digital Assets Rate Rulebook available at https://25446524.fs1.hubspotusercontent-eu1.net/hubfs/25446524/Factsheets/Cboe%20Kaiko%20Rates%20Rulebook%20-%20202311%20v3.pdf.

[3] The CME CF Reference Rates are published daily at 4:00 pm ET. CDE conducted this review on the daily rates at 4:00 pm ET from May 2023 through May 2024.

aligned upon the removal of the Cboe Digital Spot Market from the CKER, and differs by only 0.001 points from the result of the same price comparison previously conducted between the CKER (with the Cboe Digital Spot Market included) and the CME CF Ether Reference Rate.

CDE also reviewed the correlation between the daily returns of the Cboe Kaiko Bitcoin Rate (with the Cboe Digital Spot Market removed) and the Kaiko Bitcoin Reference Rate, as well as the correlation between the daily returns of the Cboe Kaiko Ether Rate (with the Cboe Digital Spot Market removed) and the Kaiko Ether Reference Rate. CDE identified a 0.999 correlation between the Cboe Kaiko Bitcoin Rate and the Kaiko Bitcoin Rate, and between the Cboe Kaiko Ether Rate and the Kaiko Ether Rate. A 0.999 correlation indicates the rates' prices will continue to be very strongly aligned upon the removal of the Cboe Digital Spot Market from both the Cboe Kaiko Reference Rates, and is unchanged from the result of the same price comparison previously conducted between the Cboe Kaiko Reference Rates (with the Cboe Digital Spot Market included) and the Kaiko Rates.

Cboe Digital reviewed the differences between the Cboe Kaiko Bitcoin Rate (with the Cboe Digital Spot Market removed) and the daily CME CF Bitcoin Reference Rate, the weekly CoinDesk Bitcoin Price Index rates and the hourly Kaiko Bitcoin Reference Rate over a year look-back:[4]

- The average difference between the daily CME CF Bitcoin Reference Rate and Cboe Kaiko Bitcoin Reference Rate was 0.09%, and the median difference 0.06%;[5]
- The average difference between the weekly Coindesk Bitcoin Price Index and Cboe Kaiko Bitcoin Reference Rate was 0.17%,[6] and the median 0.15%;[7] and
- The average difference between the hourly Kaiko Bitcoin Reference Rate and the Cboe Kaiko Bitcoin Reference Rate was 0.01%,[8] and the median difference 0.008%.[9]

[4] See supra note 3 regarding CDE's review timeframe for the CME CF Reference Rates. Regarding CDE's review timeframe for the CoinDesk Index rates, CDE reviewed the CoinDesk Index rates at weekly expiration (each Friday at 10:00 am CT) from May 2023 through May 2023. Regarding CDE's review timeframe for the Kaiko Reference Rates, CDE reviewed the Kaiko Reference Rates each hour from May 2023 through May 2024.

[5] Only 0.03 point increases (per average and median comparisons) from the difference between the rates with the Cboe Digital Spot Market included in the CKBR as previously analyzed.

[6] Only a 0.04 point increase from the difference between the rates with the Cboe Digital Spot Market included in the CKBR as previously analyzed.

[7] Only a 0.05 point increase from the difference between the rates with the Cboe Digital Spot Market included in the CKBR as previously analyzed.

[8] No difference between the rates with the Cboe Digital Spot Market included in the CKBR as previously analyzed.

[9] A 0.0016 point decrease between the rates with the Cboe Digital Spot Market included in the CKBR as previously analyzed.

Cboe Digital also reviewed the differences between the Cboe Kaiko Ether Rate (with the Cboe Digital Spot Market removed) and the daily CME CF Ether Reference Rate, the weekly CoinDesk Ether Price Index rate and the hourly Kaiko Ether Reference Rate over a year look-back:

- The average difference between the daily CME CF Ether Reference Rate and Cboe Kaiko Ether Reference Rate was 0.09%, and the median difference 0.06%;[10]
- The average difference between the weekly Coindesk Indices Ether Index and Cboe Kaiko Ether Reference Rate was 0.15%,[11] and the median 0.15%;[12] and
- The average difference between the hourly Kaiko Ether Reference Rate and the Cboe Kaiko Ether Reference Rate was 0.01%, and the median 0.009%.[13]

CDE's analysis demonstrates that the Cboe Kaiko Bitcoin Rate and the Cboe Kaiko Ether Rate will continue to adequately and consistently represent the price of the bitcoin and Ether spot markets, respectively, due to high price correlation and marginal, price divergence as compared to other digital asset spot market indexes generally representative of the wider spot markets. CDE notes that such marginal differences in reference prices, in particular when compared to the CoinDesk Bitcoin Price Index rate and CME CF Bitcoin Reference Rate, are by and large due to the differences in index methodology calculations between the different indexes.

Additionally, CDE conducted an analysis of the volume over the last year[14] during the final settlement price period (9:00 a.m. to 10:00 a.m. CT) between the Cboe Kaiko Reference Rates (with the Cboe Digital Spot Market removed) and the Lukka Bitcoin Reference Rate, which is used to settle comparable digital asset futures products certified for offering by another DCM and is based on prices sourced from only two exchanges.[15] CDE identified that, on average, the volume included in the Cboe Kaiko Bitcoin Rate would continue to be significantly greater—144% greater—than the volume included in the Lukka Bitcoin Reference Rate. On average, the volume included in the Cboe Kaiko Ether Rate would likewise continue to be significantly greater—290% greater—than the volume included in the Lukka Bitcoin Reference Rate.[16] This demonstrates that the Cboe

[10] Only 0.02 point increases (per average and median comparison) from the differences between the rates with the Cboe Digital Spot Market included in the CKER as previously analyzed.
[11] Only a 0.02 point increase from the difference between the rates with the Cboe Digital Spot Market included in the CKER as previously analyzed.
[12] Only a 0.06 point increase from the difference between the rates with the Cboe Digital Spot Market included in the CKER as previously analyzed.
[13] 0.01 point decreases (per average and median comparison) from the difference between the rates with the Cboe Digital Spot Market included in the CKER as previously analyzed.
[14] From April 2023 through April 2024.
[15] MGEX's BTF Futures Contracts and TINI Futures Contacts are based on the Lukka Bitcoin Reference Rate, which is comprised only of trade prices executed on Gemini and Bitstamp.
[16] CDE notes that while the volume in the Cboe Kaiko Ether Rate and the Lukka Bitcoin Rate are measured on transactions in different spot digital assets, the volume of the transactions that comprise the Lukka Bitcoin Rate should generally represent a sufficient level of volume in a digital

Kaiko Reference Rates will continue to be representative of the broader market and the exchange constituents experience deeper levels liquidity as compared to another digital asset index on which competing futures products currently may be offered.

Regarding the change to the Daily Closing Price determination, Rule 906(b) currently provides for a Wide Window daily settlement price process and Narrow Window daily settlement price process,[17] both of which use the price of the relevant underlying Digital Asset in the Cboe Digital Spot Market as part of the Daily Closing Price determination, or "waterfall". For the Wide Window, pursuant to subparagraph (b)(1)(B), the Cboe Digital Spot Market prices may be used in the waterfall if no trades occur in the futures contract during the last 10 minutes of trading. For the Narrow Window, pursuant to subparagraph (b)(2)(C), if a two-sided market is not available during the last minute of trading, or the Exchange determines that the best bid and offer spread is too wide, then the Exchange will use a third-party index adjusted by the difference between the previous day closing price in the Cboe Digital Spot Market and the previous day futures price. The Amendment updates both Daily Closing Price waterfalls to use a third-party index instead of the Cboe Digital Spot Market. Therefore, for the Wide Window, if no trades occur in the futures contract during the last 10 minutes of trading, a third-party index price adjusted by the difference between the previous day index value and the previous day futures closing price will be used, and for the Narrow Window, if a two-sided market is not available during the last minute of trading, or the Exchange determines that the best bid and offer spread is too wide, then the Exchange will use a third-party index adjusted by the difference between the previous day index value and the previous day futures closing price.

The Exchange believes that determining the daily settlement prices for its Products using third-party index prices, rather than the Cboe Digital Spot Market prices, as in input in such determination will continue to align the Daily Closing Prices with market participant expectations and market conditions generally. Daily settlement pricing is not related to and does not impact final settlement pricing for CDE's margin futures products. Rather, daily settlement prices are used to mark positions to market daily, particularly for the purposes of managing daily profit and loss and adjusting margin levels with a market participant's clearing firm. The Exchange believes the daily settlement price determinations as revised will continue to reflect the fair market value of the products at the daily close, aligning daily close pricing with the marketplace generally and market participants' end-of-day pricing expectations, thus reducing the risk to market participants that hold positions across these products in relation to factors such as margin requirements, pay/collect obligations, synchronization of hedges, and the level of end-of-day risk.

Core Principle Compliance

CDE believes that the Amendment is consistent with the Designated Contract Market ("DCM") Core Principles under Section 5 of the Act. In particular, CDE believes

asset index for which a digital asset futures product may be deemed not generally susceptible to manipulation.

[17] Currently, the Narrow Window applies to all products listed on CDE.

that the Amendment is consistent with:

DCM Core Principle 2 (Compliance with Rules) in that CDE will continue its normal practice to monitor and enforce compliance with its Rules, including the implementation of the Amendment, such as, but not limited to, CDE rules prohibiting abusive trade practices;

DCM Core Principle 3 (Contracts Not Readily Subject to Manipulation) as it relates to the Amendment because:

- The methodology and constituent structure of the Cboe Kaiko Reference Rates, as revised, will continue to promote the integrity of the settlement prices and discourage manipulative conduct. They do so because:

    - The Cboe Kaiko Reference Rates will continue to be calculated from a high volume of trades across three eligible trading venues during the final settlement period and, due to significant liquidity, particularly regarding the volume across Cboe Kaiko Reference Rates constituents as compared to volume across constituents that comprise a rate used to settle comparable digital asset futures products certified for offering by another DCM (as detailed above), are not generally susceptible to manipulation. As demonstrated and explained above, the Cboe Kaiko Reference Rates comprised of three eligible exchanges will continue to experience volume during the final settlement period well-above that of the volume experienced during the final settlement period in a comparable digital asset index (comprised of only two constituent exchanges) on which competing futures products currently may be offered;[18]

    - The Cboe Kaiko Reference Rates will continue to accurately represent the underlying spot market prices. As demonstrated and explained above, Cboe Kaiko Reference Rates adequately and consistently represent the price of the bitcoin and Ether spot markets due to high price correlation and insignificant levels of price divergence as compared to other digital asset spot market indexes generally representative of the wider spot markets;

    - The Cboe Kaiko Reference Rates, as revised, are comprised of multiple constituents. Therefore, to manipulate the index price a market participant would have to manipulate the prices in a majority if not all the constituent exchanges—a prohibitively costly endeavor. Arbitrage opportunities across multiple digital asset trading venues serves to reduce price discrepancies and converge prices. The Exchange notes that comparable digital asset futures products certified for offering by at least one other DCM are based on rates comprised of less than three constituent exchanges; [19]

[18] MGEX's BTF Futures Contracts and TINI Futures Contacts are based on the Lukka Bitcoin Reference Rate, which is comprised only of trade prices executed on Gemini and Bitstamp.
[19] See supra note 18.

- The Cboe Kaiko Reference Rates calculation will remain the same:

    - the focus on the volume- and time-weighted calculations on the trading activity over an hour look-back decreases the likelihood in any attempt to manipulate the price over the full period of time by limiting the impact of any one transaction and highly mitigating the risk of incorporating outliers into the calculation;

    - the one-hour look-back greatly increases the cost of any attempt to manipulate due to arbitrage opportunities during the calculation window;

    - the calculation of the reference rates across six 10-minute partitions limits any impact of attempted manipulation as transactions made in an attempt to manipulate executed during one partition will only have a limited effect on the overall reference rate;

    - the use of a volume-weighted median calculation is outlier resistant by nature. For distributions that may have outliers or may be skewed, as could be the case in an attempt to manipulate, the median is significantly less sensitive to outliers than the mean. Additionally, volume-weighting serves to reduce higher counts of smaller trades that may be outliers and could otherwise impact a non-volume weighted median;

- Kaiko's methodology design will continue to prevent outliers and minimize the impact of any one market deviating in price from the rest of the constituent markets. Particularly, to address any potential anomalies or manipulation at individual exchanges, the index provider implements measures that identify and disregard spurious data and that may remove a constituent exchange or otherwise revise its methodology in light of, but not limited to, fraud, market manipulation, or significant loss of volume or liquidity on a constituent exchange;

- The data-sharing and ISAs in place between CDE and Kaiko and the underlying exchanges will continue to assist CDE in monitoring for market manipulation and abuses, and in enforcing compliance with CDE rules;

- Each of the underlying component exchanges continues to have a comprehensive set of rules or binding terms and conditions for members that prohibit members from engaging in fraudulent acts, market manipulation and abusive practices, and surveillance in place to monitor for any such abusive practices; and

- Each constituent exchange remains a registered MSB; therefore, all

members of each exchange continue to be subject to rigorous AML/KYC checks and procedures during the onboarding process;

- Pursuant to Rule 409(c), Trading Privilege Holders must make available to the Exchange any information regarding their activities in a reference market of an index on which a CDE futures product is based, which would include the Products; and

- Rule 906(b), as amended, will continue to ensure the Daily Closing Price determination will perform the intended risk management and price discovery functions of the daily closing price for CDE Products. The Daily Closing Price determination(s) will continue to reflect the fair market value of the Products at the daily close, aligning daily close pricing with the marketplace generally and market participants' end-of-day pricing expectations, thus reducing the risk to market participants that hold positions across these products in relation to factors such as margin requirements, pay/collect obligations, synchronization of hedges, and the level of end-of-day risk.

DCM Core Principle 4 (Prevention of Market Disruption) because CDE Rules prohibit participants from manipulating the market in, disrupting the orderly functioning of the market in, or creating a condition in which prices do not or will not reflect fair market values in CDE Products and CDE enforces compliance with such CDE Rules;

DCM Core Principle 7 (Availability of General Information) because the Amendment describes in the CDE Rules how the daily settlement prices of CDE Products will be determined. Additionally, the CDE Products' contract specifications, along with the publicly available Cboe Kaiko Reference Rates rule and procedures, will continue to reflect information regarding the reference rates underlying the Products;

DCM Core Principle 8 (Daily Publication of Trading Information) in that daily settlement prices of margin futures contracts that CDE lists (currently, financially-settled margined bitcoin futures and financially-settled margined Ether futures) and will continue to be provided to the Commission and made available publicly on a daily basis on CDE's website consistent with Commission Regulation 16.01; and

DCM Core Principle 12 (Protection of Markets and Market Participants) because CDE has rules that include prohibitions against market manipulation and fraudulent, non-competitive, and disruptive trading practices that apply to trading activities on CDE and related conduct, including during any period before a daily settlement price or final settlement price is being determined.

Public Information

We have concurrently posted a notice and copy of this submission on the Exchange's website at https://www.cboedigital.com/regulation/exchange-notices/ under "CFTC Submissions."

Opposing Views

The Exchange is not aware of any opposing views to this self-certification.

Certification

Cboe Digital Exchange, LLC hereby certifies to the Commodity Futures Trading Commission, pursuant to the procedures set forth in Commission regulation §40.6, that this submission complies with the Commodity Exchange Act, as amended, and the regulations promulgated thereunder.

If you have any questions regarding this submission, please contact the undersigned at the information below.

Sincerely,

/s/ Rebecca Tenuta

Rebecca Tenuta
Assistant General Counsel
rtenuta@cboe.com
(773) 485-7926

Exhibit A

(additions underlined; deletions ~~struck through~~)

* * * * *

RULE 906. Settlement Prices

* * * * *

(b) Daily Settlement Price. Unless specified in the terms of a Contract, the daily settlement price for all Exchange Futures Contracts based on a Digital Asset, including a third-party Digital Asset index, will be determined by one of the following calculations, specified in each Contract's specifications:

(1) Wide window.

(A) Based on the volume weighted average price of executed trades for the Contract during the last 10 minutes of trading on each trading day, where the closing period will be broken down into two distinct five-minute periods for which the volume weighted average price will be calculated and the average of the two value weighted average prices will be the daily settlement price;

(B) If no trades occur in the Contract during the last 10 minutes of trading, a third-party index price ~~the last trade in the Exchange's spot market during the same period for the relevant underlying Digital Asset will be used and~~ adjusted by the difference between the previous day ~~spot closing~~ index value~~price~~ and the previous day futures closing price; or

(C) ~~If no third-party index price is available trade has occurred in the Exchange's spot market during this period or~~ In the event that the Exchange concludes that the settlement price determined in accordance with the foregoing does not fairly represent the market value of the period, the Exchange may determine an alternative settlement price. Such determination may be based upon, among other things, a third party or combination of third party index or reference prices.

(2) Narrow window.

(A) Based on a volume weighted average price of executed trades for the Contract during the last minute of trading on each trading day;

(B) If no trades occur in the Contract during the last minute of trading, the midpoint of the last best bid and offer available before the close of trading will be the daily settlement price; or

(C) If a two-sided market is not available during the last minute of trading, or the Exchange determines that the best bid and offer spread is too wide, then the Exchange will use a third-party index adjusted by the difference between the previous day ~~closing price of the relevant Digital Asset in the Exchange's spot market~~ index value and the previous day futures closing price.

(D) In the event that the Exchange concludes that the settlement price determined in accordance with the foregoing does not fairly represent the market value of the period, the Exchange may determine an alternative settlement price. Such determination may be based upon, among other things, a third party or combination of third party index or reference prices.

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